Invasive Species Management in Southwest Alaska

Current Projects and Areas of Need

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General Outline

- Invasive Species/IPM Overview
- Vectors of Spread
- Prevention Tactics
- Management Decision Tools
- Weed Management Needs
- Current Programs:
  - Kenai Peninsula
  - Kodiak
  - Bristol Bay

Definitions

What is a weed?

What is the difference between a native & non-native plant?

What is the difference between invasive and noxious?

Invasive Species Can:

- Reduce biodiversity
- Degrade fish & wildlife habitats
- Alter water quality
- Distort erosion process
- Reduce recreational opportunities
- Distort soil chemistry

Integrated Pest Management

Vectors of Spread

- Ornamentals
- Seed/garden contaminants
- Direct revegetation
- Construction equipment
- Researchers/Agency personnel

Prevention

- Certified weed free products
- Restore vegetation after disturbance
- Avoid working or storing equipment in infested areas
- Equipment washing

- Native plant material available in rural areas

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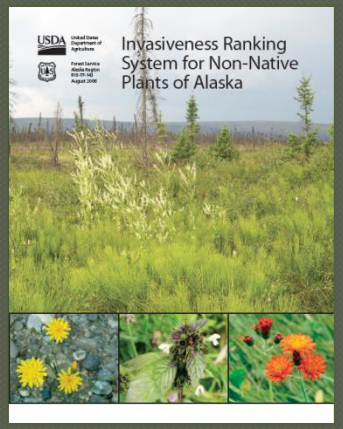
Chignik Lake, Doug Ihly: Chigniklakecouncil@yahoo.com

Pedro Bay, Teresa Walluk: Twalluk@pedrobaycorp.com

Management Decision Tools



AK Invasiveness Ranking System

www.fs.fed.us/r10/spf/fhp/invasive/invasiveness%20ranking%20report.pdf

- 2008 – initial ranking of 113 species
- 2011 – ~50 species added

aknhp.uaa.alaska.edu/botany/akepic/non-native-plant-species-biographies/

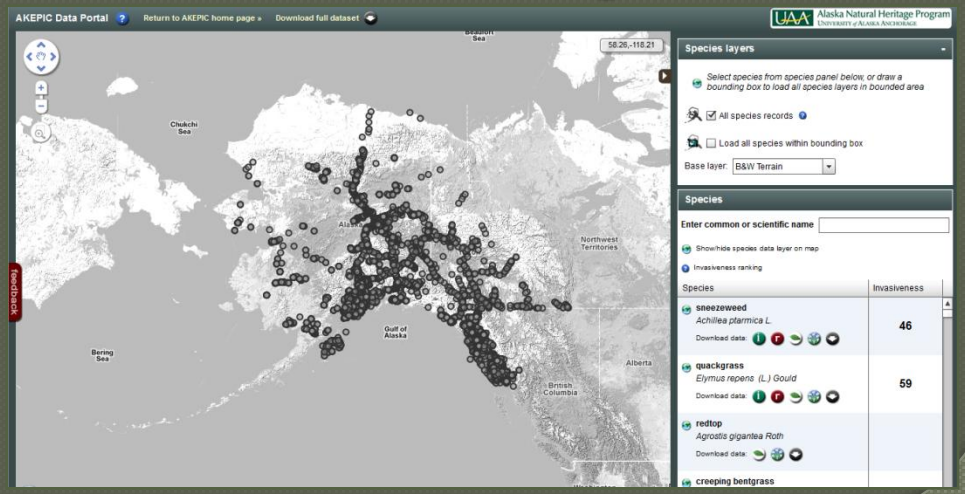
AK Exotic Plant Information Clearinghouse

- Alaska NHP

aknhp.uaa.alaska.edu/maps/akepic

- EDDMapS

www.eddmaps.org/alaska



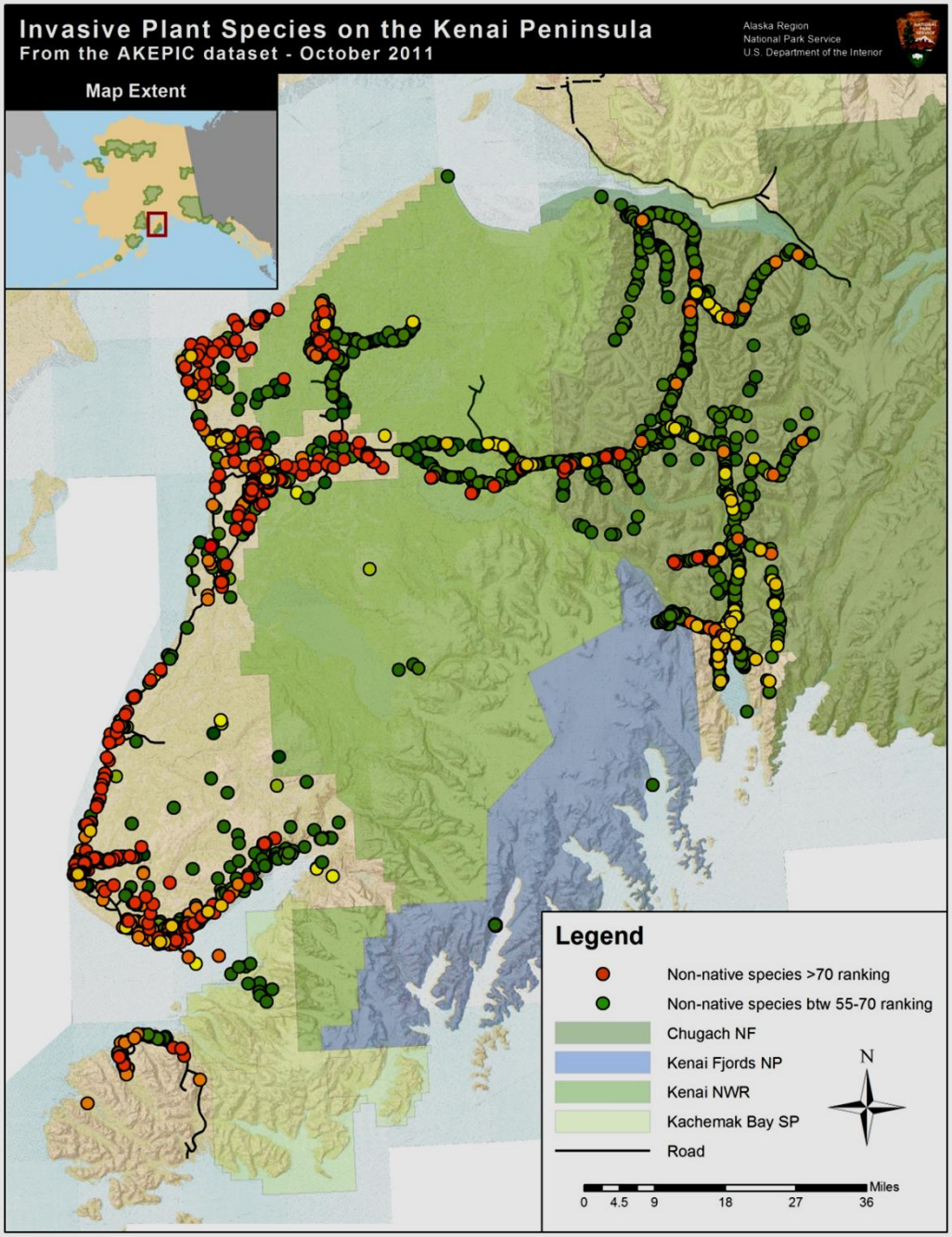
Weed Management Needs

Volunteers manage orange hawkweed on Adak Island

Canada thistle in a wet meadow, Anchorage 2011.

- Canada thistle in Tyonek and Cold Bay
- Orange hawkweed on Adak
- Confirm giant hogweed report in Chignik Lake
- Limiting contaminant, ornamental and reveg introductions

Slide courtesy of Brian Maupin, Homer SWCD



Rapid Spread of Invasive Plants

- ✓110 species on Kenai Peninsula!
- ✓71 species on KENWR
- ✓Reed canary grass, hawkweeds, white sweetclover

Slide courtesy of Brian Maupin, Homer SWCD

Managing by Administrative Boundary

TARGET SPECIES	CHUGACH NF	KENAI NWR	KENAI FJORDS NP	HOMER SWCD	KENAI SWCD	ALASKA SWCD
Reed canarygrass	ER	CL	–	CN	CN	–
Bird vetch	CN	ER	–	ER	CN	ER
Orange hawkweed	ER	ER	–	CN	CN	–
Sweetclover	CL	CN	–	ER	ER	ER
Oxeye daisy	CN	ER	ER	CN	CN	CL

ER = eradicate CL = control CN = contain

Slide courtesy of Brian Maupin, Homer SWCD

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Slide courtesy of Brian Maupin, Homer SWCD

Lessons Learned

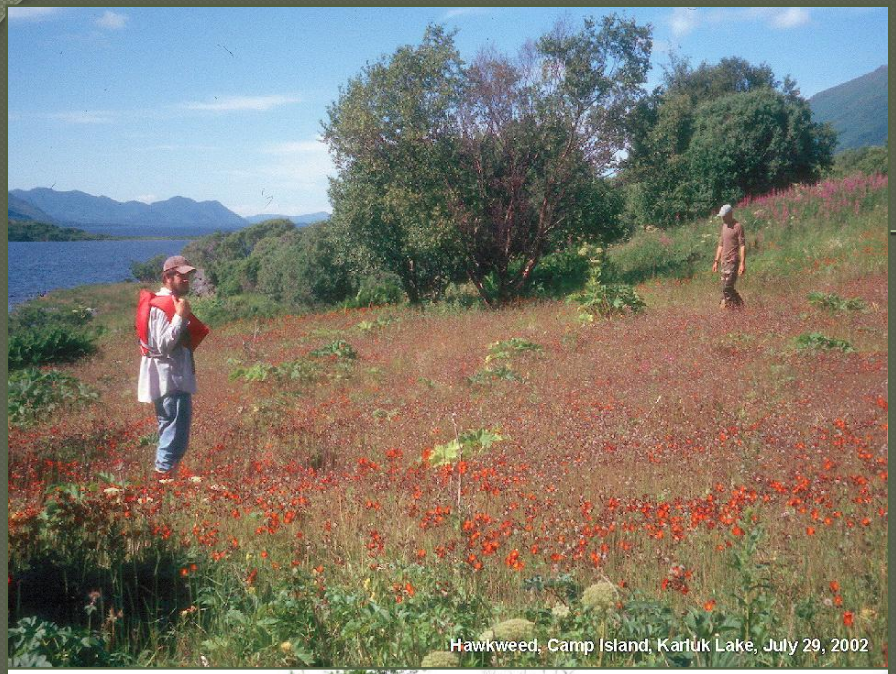
Herbicides should be used sooner rather than later to…

- ✓Eradicate incipient populations of new species
- ✓Eradicate geographically-isolated populations
- ✓Keep areas of access clean
- ✓Do the permitting process **NOW**

List of priority species are OK but spatially-explicit strategies are needed

- ✓Consider isolated watersheds to protect
- ✓Consider vectors and bottle necks

Slide courtesy of Brian Maupin, Homer SWCD



Orange hawkweed in KNWR before and after treatment.

Kodiak Island

- Multiple partners
- No NEPA = Lawsuit
- New FWS EA:

  Key point of being able to fund actions off the refuge lands with a pesticide use proposal
- Contact: Bill_Pyle@fws.gov

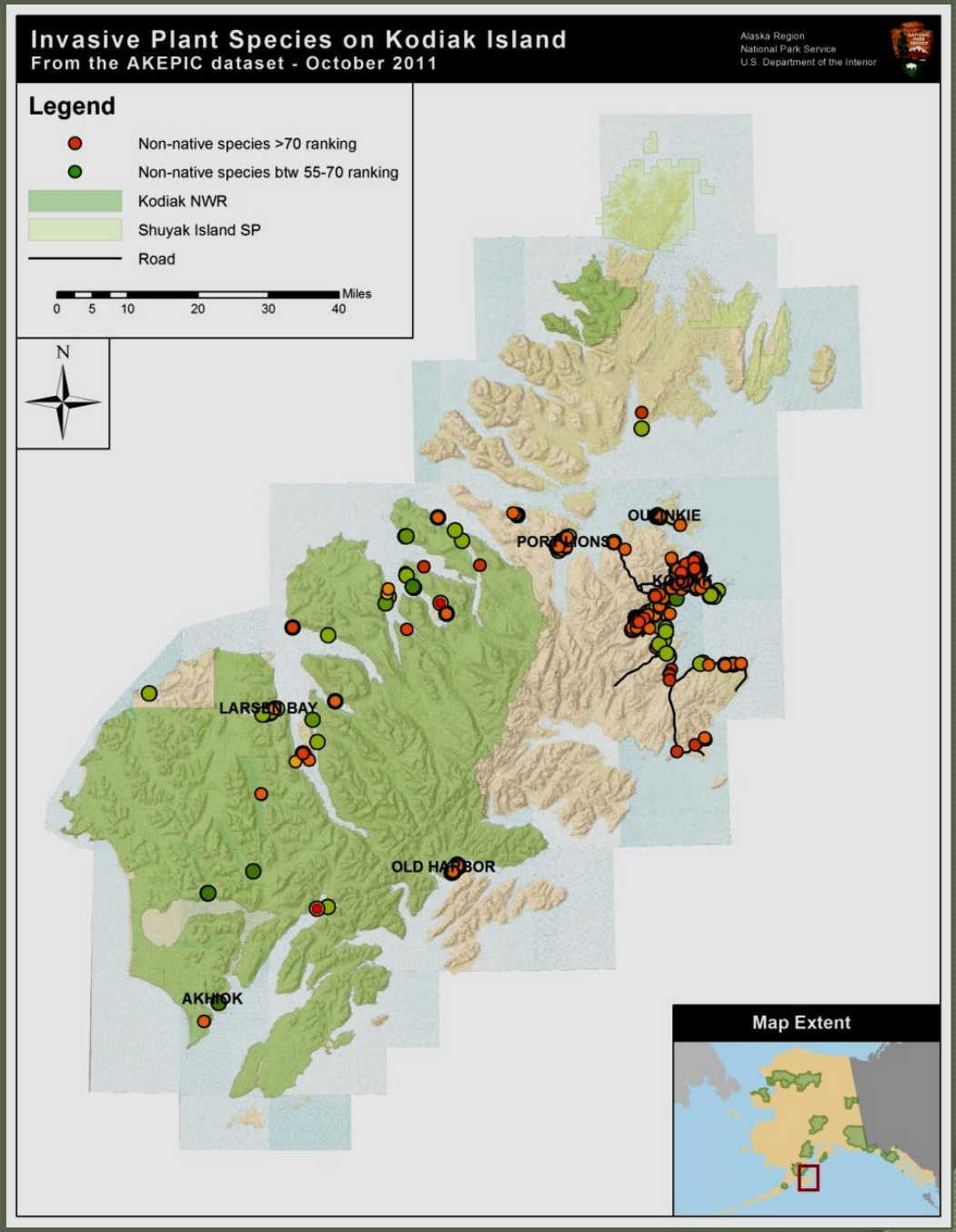
Highly Invasive Species

- Knotweed spp.
- Reed canarygrass
- Orange hawkweed
- Canada thistle
- Siberian peashrub
- Oxeye daisy
- European mtn. ash
- Common tansy
- Creeping buttercup
- Hempnettle

Slide courtesy of Bill Pyle, USFWS

IPM - needs to deal with infestations on federal AND private land in the Refuge vicinity

Why? Because the worst infestations are not on Federal lands, and if you don't manage these they will get to the refuge.



Slide courtesy of Bill Pyle, USFWS

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Bristol Bay

Major Partners

- BBNA
- Alaska Association of Conservation Districts
- USFS State & Private Forestry
- Ekuk Village Council

Slide courtesy of Jennifer Robinette, Ekuk Village Council

Work in Bristol Bay

Inventory and public outreach done in the following Bristol Bay Villages:

- Dillingham
- Aleknagik
- Nondalton
- Manokotak
- New Stuyahok
- Igiugig

Control done in:

- Dillingham City Cemetery orange Hawkweed
- Twin Lakes yellow toadflax

Slide courtesy of Jennifer Robinette, Ekuk Village Council

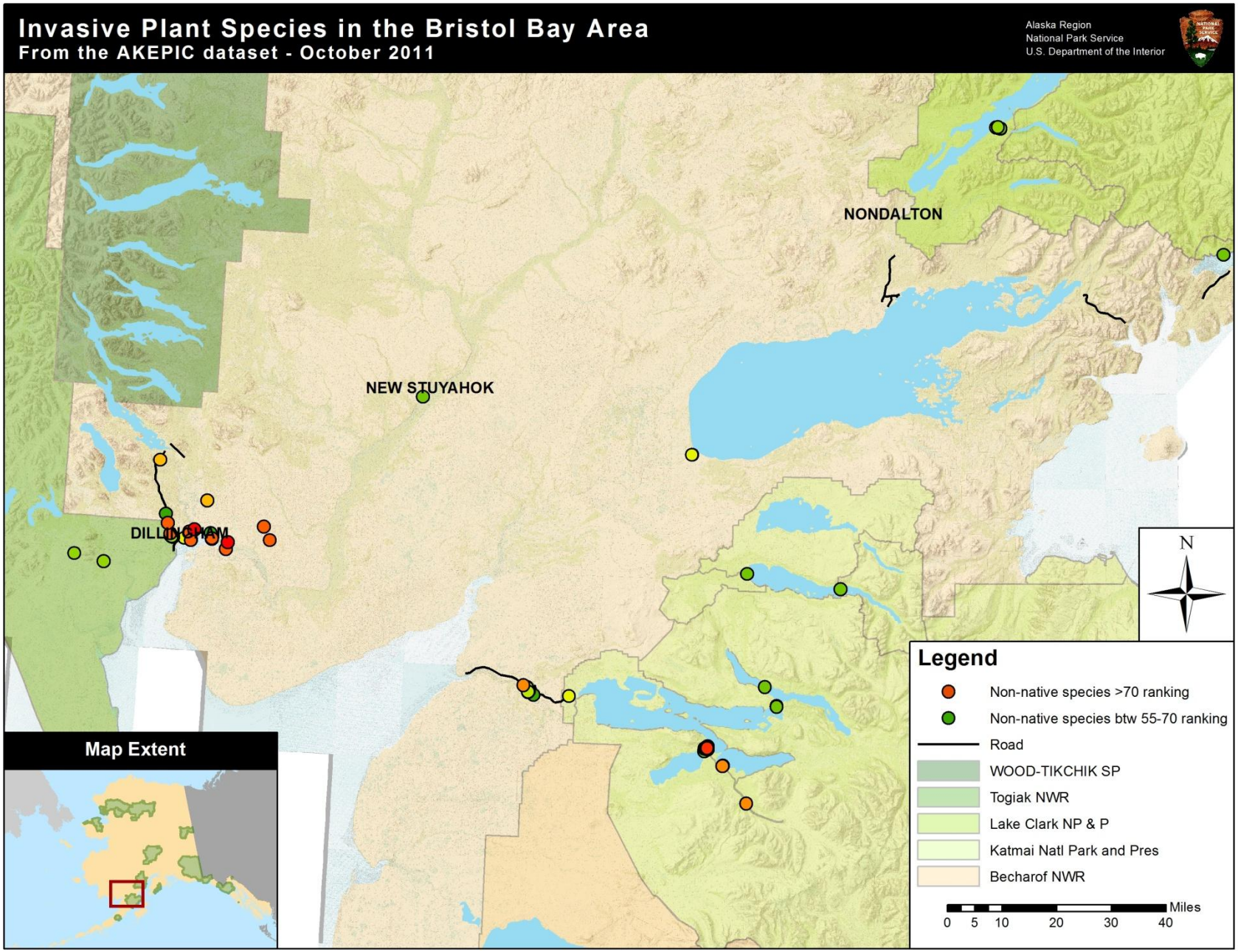
Future work in Bristol Bay

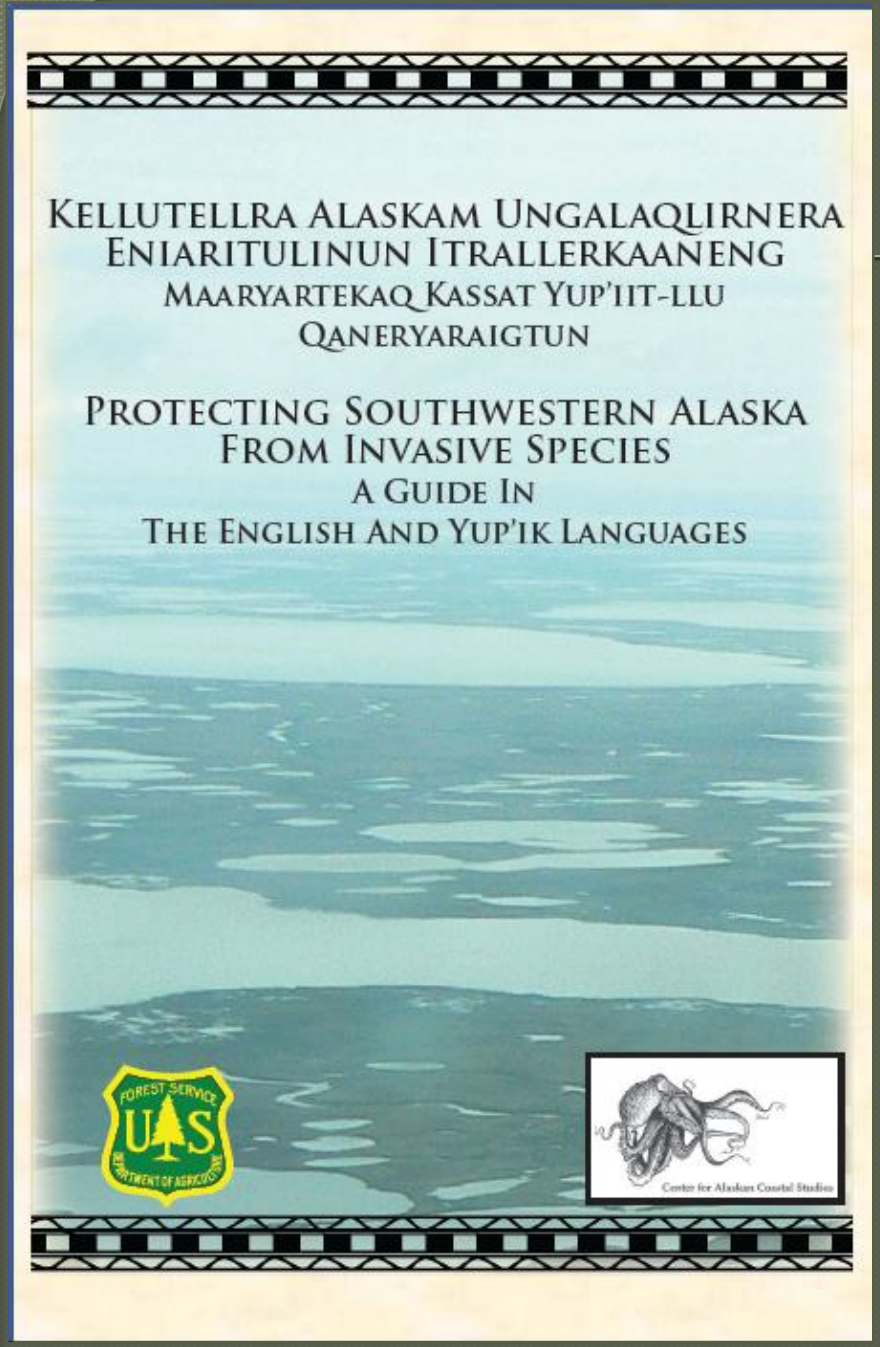
- Inventory the remaining 28 villages by 2013

  Western Alaska LCC grant, administered by AACD and Ekuk Village Council, matched by BBNA Forestry

- Train and Hire invasive plant technicians with in Bristol Bay
- Public outreach
- Community Invasive Plant control/eradication

Slide courtesy of Jennifer Robinette, Ekuk Village Council


Invasive Plant Species in the Bristol Bay Area
From the AKEPIC dataset - October 2011
Alaska Region
National Park Service
U.S. Department of the Interior
NONDALTON
NEW STUYAHOK
DILLINGHAM
N
Legend
Non-native species >70 ranking
Non-native species btw 55-70 ranking
Road
WOOD-TIKCHIK SP
Togiak NWR
Lake Clark NP & P
Katmai Natl Park and Pres
Becharof NWR
Miles
0 5 10 20 30 40
Map Extent



Yup'ik Outreach Material

- USFS funding for projects focusing on underserved communities and minority groups. Southwest Alaska is arguably the most underserved area in North America.
- Those who live subsistence lifestyles have the greatest potential to be severely affected.
- Native Alaskans in Southwest are already experts in natural history.
- Yup'ik is the most widely spoken native language in Alaska, and is rare in that it has a written component that is actively used.

Slide courtesy of Nick Lisuzzo, USFS SPF

Juneau's Fight against Garlic Mustard – by Raymond Paddock III, Juneau, AK

Garlic Mustard is a highly aggressive invasive plant that has taken over many forested and open habitats in the lower 48 states. The only known infestations in Alaska were discovered in and around Juneau. Garlic Mustard was first discovered in 2001 by an employee of Central Council Tlingit Haida Indian Tribes of Alaska (CCTHITA). CCTHITA has partnered with the Juneau Cooperative Weed Management Area (JCWMA) to tackle this problem plant before it can spread to other parts of the state. Each year members from these two groups have been conducting volunteer weed-pulls to reduce Garlic Mustard populations, and selectively spraying persistent patches with herbicides. Over the years we have learned many lessons about the best way to eliminate Garlic Mustard in Juneau. Early on, we held our weed pulls in late spring and summer, but we discovered that the plants were visible and more easily accessible earlier in the spring before native brush concealed the plants and made traversing the steep hillsides more difficult. For this reason, in recent years, weed-pulls have been conducted in the spring.

After five years of hand-pulling treatment efforts, the Garlic Mustard continued to re-grow. The JCWMA determined that herbicide applications would be necessary. In 2006, the JCWMA prepared a proposal and received a grant to pay for herbicide applications to assist with control efforts. JCWMA contracted with a professional ecosystemr who was a licensed and insured herbicide applicator. Special precautions were made to reduce the impact to native plants. The unique lifecycle of garlic mustard extends its life late into the winter and it begins growing early in the spring. This allowed for the first application of herbicide to be made in October 2006, after the first fall freeze and after most of the native vegetation was dormant for the winter.

Juneau-um Call'uutii Garlic Mustard-aneng Raymond Paddock III-am Qanemcia – Juneau-mi

Garlic Mustard-at eniarituliugut talluitelriit amlleq napalek napailnguq-llu nuna pikngelluku akmani. Nallungrilkengaat-gguq kigingan tamakuneng Alask-ami nalkutaullruuq Juneau-um augatiini. Nallkutqerrallruut-gguq makuneng alrakumi 2001-ami. Calitulim Central Council Tlingit Haida Indian Tribes-ani (CCTHITA) nalkelliiniluki. Ukut-gguq CCTHITA-at ililiulluteng Juneau Cooperative Weed Management Area-aq-llu (JCWMA) makut callungnaqsulqait allanun nunanun state-ami iluani cagpialgata.. Alrakugaqan-gguq calistet ukugneng calivigneng enuqlluki augarituut akingailengremi ikgellingnaqevkarluki cali nauviit nauviksugpakiit "spray-arluki" naugialkutneng. Alrakut kitullret iluatni elitengukut amllerneng aturyaraneng makut tuqutellerkaat tunginun. Ayagniqarrallemteni, enuqtaritullrukut upnerkaq iqukllitqataraqan kiagmi-llu, taugaam alaqellqaput

Raymond Paddock III - CCTHITA

CCTHITA-am JCWMA-am-llu calistain ilait enuqtarilriit Garlic Mustard-aneng Juneau-mi.

Members of the CCTHITA and the JCWMA hand pulling garlic mustard in dowtown Juneau.

Slide courtesy of Nick Lisuzzo, USFS SPF


Hawkweed, Camp Island, Karluk Lake, July 29, 2002